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ABSTRACT

The booklet is intended to aid educators and parents in the planning, development, and evaluation of differentiated curricula for gifted and talented students. A rationale for gifted/talented education is provided which stresses such principles as: "Equal does not mean the same" and "Ceilings are for rooms, not people." The next section defines differentiated curriculum as the match between who the learner is and what the learner needs and lists the elements of a differentiated curriculum. A curriculum criteria checklist is offered, and an example of a differentiated curricular unit is analyzed using the checklist. The next section identifies "shoulds" and "should nots" of differentiated curriculum and a form for conducting a curriculum needs assessment is provided. The fifth section relates curricular elements to current state (California) legislation for the gifted and talented. Finally, a developmental sequence of seven tasks recommended in the construction of differentiated curricula is detailed. Examples of alternatives to accomplish each task are also given. Additional forms provide a format for: organizing the learning experiences, selecting elements for a differentiated curriculum, assessing the functional levels of students, constructing a comprehensive and articulated curricular framework, and relating the differentiated to the regular curriculum. (DB)

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IMPROVING DIFFERENTIATED CURRICULA FOR THE GIFTED/TALENTED

A Reference and Workbook for Educators and Parents

EC 211783

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IMPROVING DIFFERENTIATED CURRICULA FOR THE GIFTED/TALENTED:

A Reference and Workbook for Educators and Parents

CALIFORNIA ASSOCIATION FOR THE GIFTED

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1

WHY THIS BOOKLET?

Improving Differentiated Curricula for the Gifted/Talented: A Reference and Workbook for Educators and Parents has been developed to serve many purposes:

1. To inform professional and parent educators of the gifted/talented about the elements, principles, and criteria to be considered in planning, developing, and/or evaluating curricula appropriate for the gifted/talented

2. To present a collection of ideas about differentiated curricula for the gifted/talented that can serve as a reference for educators and parents in preparing defensible arguments to advocate and establish a need for educational programs for the gifted/talented

3. To augment other materials describing the development of curricula for the gifted/talented used in the training of educators and parents

4. To evidence CAG's interest in supporting quality and appropriate educational programs for the gifted/talented.

This booklet is not intended to answer all questions regarding differentiated curricula for the gifted/talented, nor is it expected to replace other more comprehensive publications regarding the subject. This booklet provides a rationale and general overview of some of the issues, elements, criteria, and principles governing the appropriate construction of differentiated curricula for the gifted/talented. Use all or any part of this booklet:

- purposefully
- flexibly.

Most importantly, use this booklet as a stimulus to explore other references, discussions, and workshops that further articulate the theoretical and practical aspects of planning, developing, and implementing differentiated curricula for the gifted/talented.

2

WHY GIFTED/TALENTED EDUCATION?

Use it or lose it.

Intelligence as well as other areas of ability are the result of a dynamic process. Unless they are used and challenged they can be diminished. Children whose abilities place them above the average must have differentiated and appropriate instructional experiences.

Equal does not mean the same.

Our political and social system is based on democratic principles. The school as an extension of those principles purports to provide an equal educational opportunity for all children to develop to their fullest potential. It is then undemocratic to refuse to allow gifted children the right to educational experiences appropriate to their level of development.

If you don't progress, you regress.

The human biological system is designed to support continuous growth. If the biosystem is not allowed experiences in any of its structures that provide for growth the result can be discomfort, frustration, and even physical and psychological pain. It is therefore essential that gifted students whose brain processes are accelerated, more energized, and differentially sequencing be provided with educational experience based on these biosystem differences.

The excellence of one adds to the excellence of all.

Our society as a whole benefits from the highest development of all its members. Whether high levels of ability occur in relationship to academics, intelligence, creativity, leadership, or visual and performing arts, encouragement of any or all of these groups services all others. These elite groups are then to be chosen because of some special skill or ability which, if fostered could become truly outstanding. Such elitism of excellence is critical to the health and progress of an advancing nation.

To value uniqueness is to value diversity.

One's concept of self will provide the basis for one's view of reality. Children who are, in fact, functioning with different processes, different interests, and a different level of social and emotional need require consideration and valuing of these differences if they are to achieve a positive view of themselves and their world. Only if such a positive view is fostered will a sense of commitment to the future goals of our society be achieved.

Ceilings are for rooms, not people.

Educational systems have as one of their major goals the achieving, self-directed, effective learner. When the needs of the gifted are considered and the educational program is designed to meet these needs these students make significant gains in achievement, work more efficiently, develop good problem-solving skills and see solutions from many viewpoints. They experience concepts and materials in a dynamic relationship and can use this vast amount of knowledge as a background for unlimited learning.

High-level thoughts lead to high-level solutions.

Eminent individuals have contributed to the advancement of thought, social and moral enlightenment, and technological understanding out of proportion to their numbers. Society will need the gifted adult to play a far more demanding and innovative role than that required of the more typical learner. We must have enough integrated, highly functioning persons to carry out those tasks that will lead us to a satisfying fulfilling future.

3

DEFINING DIFFERENTIATED CURRICULA

The term differentiated curriculum refers to the learning experiences that respond to the characteristics that differentiate gifted/talented learners from other types of learners. Differentiated curriculum is identified as such if it encompasses elements that are congruent with the interests, needs, and abilities of the gifted/talented population. Differentiated curriculum is thus defined as the match between who the learner is and what the learner needs:

WHO ⟷	WHAT
(characteristics of the gifted/talented)	(elements of a differentiated curriculum)

The elements that define a differentiated curriculum include, but are not limited to, the following:

- accelerated or advanced content
- more complex understandings of generalizations, principles, theories, and the structure of the content area
- abstract concepts and thought processes or skills
- level and type of resources used to obtain information, acquire skills, and develop products
- appropriation of longer/shorter time span for learning
- generating new information and/or products
- transfer of learning to new/different disciplines, situations, etc.
- development of personal growth and sophistication in attitudes, appreciations, feelings, intuition
- independence of thought and study

WORK PAGE: CURRICULUM DIAGNOSIS

Directions: Write an example of a learning experience you think is appropriate for the gifted in the space below. Identify the degree to which the curricular activity reflects the elements of a differentiated curriculum (See Checklist below). Then, rewrite the learning experience so it more closely depicts an appropriate differentiated learning experience for the gifted/talented.

A Learning Experience for the Gifted/Talented

CHECKLIST	RATING		
Elements of a Differentiated Curriculum	YES	MAYBE	NO
1. accelerated/advanced content			
2. complex understandings of generalizations, theories, principles, and the structure of the content area			
3. abstract concepts, thought processes, or skills			
4. level and type of resources required			
5. appropriation of longer/shorter time span for learning			
6. generating new information and/or products			
7. transfer of learnings to new/different disciplines/situations			
8. development of personal growth and sophistication in attitudes, appreciations, feelings, intuition			
9. independence of thought and study			

Rewrite of Learning Experience to Make It More Appropriately Differentiated for the Gifted/Talented
•

WORK PAGE: CURRICULUM CRITERIA CHECKLIST

Directions: While the following criteria are necessary for the development of appropriate curricula for all students, they have a unique relationship to the development of differentiated curricula for the gifted/talented.

Read the list of criteria and the corresponding definitions. Then discuss (or think about):

a) Why the criteria are essential to a differentiated curriculum, and

b) How the criteria can be applied in the formation of a differentiated curriculum for the gifted/talented.

1. Continuity - Comprehensive set of learning experiences that reinforces specific curricular objectives.

2. Flexibility - Determination of the scope and sequence of the curriculum is modified to accommodate student and teacher needs as they emerge.

3. Responsive to learner needs - Definition of the curriculum is based on an assessment of individual/group abilities, interests, needs, and learning styles.

4. Diversity - Provisions for alternative means to attain determined ends within a specified curricular framework.

5. Integration - Integrative use of all abilities which include cognition, emotion, intuition, and mind/body into a single curriculum.

6. Openness - Elimination of preset expectations that limit the learnings within the curricular framework.

7. Independence - Provisions for some type(s) of self-directed learnings.

8. Increasing levels of advanced abstraction and difficulty - Acceptance of the student's readiness to learn beyond traditional age/grade expectations and provisions for stimulating such readiness.

9. Substantive learning - Inclusion of significant subject matter, skills, products, and awarenesses that are of consequence or of importance to the learner and the disciplines.

(cont.)

Work Page: Curriculum Criteria Checklist (continued)

10. Decision making - Provisions for students to make some appropriate/ relevant decisions regarding what is to be learned and how it can be learned.

11. Principles of learning - Inclusion of teaching practices that allow for motivation, practice, transfer of training and feedback.

12. Creation/Re-creation - Provisions to apply the creative process to improve, modify, etc. one's creations to challenge prevailing thought and offer more appropriate solutions.

13. Interaction with peers and variety of significant others - Provisions to learn about and meet with individuals who share same and different gifts/talents.

14. Value system - Inclusion of consistent opportunities to develop and examine personal and societal values and to establish a personal value system.

15. Communication skills - Development of verbal, non-verbal systems and skills to dialogue, share, and exchange ideas.

16. Commitment to society - Provisions to understand and relate to the society in which one lives and to find one's place in it.

EXAMPLE OF DIFFERENTIATED CURRICULUM

Introduction

The following is an example of a curricular unit developed specifically for gifted students. The inclusion of this unit does not necessarily mean that it is an exemplary curriculum. It is one example of the many forms and types of differentiated curricula developed for gifted students. It is given here to illustrate the criteria to be considered in the development of curricula for all students and the principles governing the development of differentiated curricula for the gifted/talented.

The margin notes indicate the criteria and principles employed in the construction of this unit to make it appropriately differentiated for the gifted/talented. Reference these points to the following pages in the handbook for further descriptions:

DEFINING DIFFERENTIATED CURRICULA, Page 5

WORK PAGE: CURRICULUM CRITERIA CHECKLIST, Pages 7, 8

CHANGE

Major Learning Experience

Using journals and periodicals as sources for your information, find supportive evidence that illustrates how patterns of change have influenced past and present personal and societal behaviors and may influence these behaviors in the future. Present your findings in the form of a newspaper or magazine.

Learning Activities

Content

Have students trace the changes that have occurred in one of these areas over the last 25 years: racial integration, sex roles, technology, economics, education, use of natural resources.

Substantive learning

Have students compile a family history to show how a particular personal or social change has affected their family's lifestyle, needs, interests, relationships, etc.

accelerated or advanced content

Have students prepare a filibuster to present the negative and/or positive consequences of a given law, amendment to the constitution, or policy on their lives.

abstract, complex concepts

Have students read articles about the future and define a particular change projected for the future. Have them trace how the projected future change is connected or linked to a historical event, problem, change, etc. Have them create a chain of events to show how the projected change is rooted in the past.

Thinking Skill—
To find supportive evidence

Discuss with students the concept of "evidence."

Have students investigate the various forms of evidence—circumstantial evidence, etc. Encourage students to research significant court cases to evaluate the type of evidence collected and the decision related to the types of evidence used in the legal battle.

List on a chart various types of personal and social problems. Have students determine the type of evidence that would be appropriate in resolving each of these problems.

Discuss the relationship between evidence and the problem or issue it is to support.

level and type of resources

Introduce students to the various techniques for gathering evidence: observation, interviewing, reading, etc. Have the students select a group problem and collect evidence for it.

Have students find evidence to support or negate these sayings:

Money is power.
Nothing really changes.
What's here today, is gone tomorrow.
Change or die.

Research Skill—
Using periodicals and journals

Introduce students to the various procedures for locating journals and periodicals in the library.

Have the students play "find it" in the library by giving them the names of specific journal and magazine articles that they are to locate.

Level and type of resources

Introduce students to the various types of journals and magazines that can be used to research different topical areas.

Discuss the various ways to locate specific articles within journals and magazines.

Have students find specific articles related to these topics about change:

Changes in architecture over time
Changes in lifestyle
Changes in communication modes
Changes in fashion and fads
Changes in entertainment

Transfer of learning to new/different disciplines/situations

Have students find in the various articles six or more pieces of supportive evidence to indicate some type of change in each area. Make a "before and after" chart to prove that change has occurred.

Product—Developing a magazine or journal article

Analyze the various types of features in a magazine such as the cover story, editorial, feature articles.

Investigate how magazines and/or journals are published and disseminated.

Communication skills

Research the importance of style and advertising to the development of magazines.

Creation/re-creation

Create an editorial board or review board to establish selection criteria and to discuss and evaluate articles to determine their possible inclusion in various types of magazines.

Elements of AB1040—Sensitivity and Responsibility

Discuss the kinds of changes that members of the class have undergone.

Integration

Trace how a personal change in thinking, feeling or doing has affected the individual and society.

Commitment to Society

Have students predict the types of changes they will undergo in the next ten years and then give evidence to substantiate that these changes might actually occur.

Ethical Standards	Trace a belief of a noted philosopher and illustrate how that belief has filtered into the society and/or into one's personal belief system.
Value system	Create a family tree of beliefs to depict the value system that governs decisions within the family.
	Have students describe their own philosophy of life.
Self-concept	Have students identify ways individuals and groups absorb or resist change.
Diversity	Have students describe their own and others' characteristics and behaviors that are useful in coping with change.

Major Learning Experience

Gather evidence, by conducting an historical study, to determine the significant people, places or things that have contributed to a given societal change. Present the findings from the study in a time line.

Learning Activities

Content	Provide students with a list of possible significant people, places or things to study: . famous philosophers . artists and their works . impact of world wars . social revolutions and needs . technological advances in science, business, industries . political leaders . natural phenomena (Mt. St. Helens, San Andreas Fault) . communication techniques and technology such as satellites, cable broadcasting networks . development of theories such as the theory of relativity
Thinking Skill— To give evidence	(See prior Learning Experience)

Product— Time Line	Have students sequence various events of their lives and then illustrate these in time lines. Have students research various types of time lines that have been used to depict information. Compare the features of a time line, criteria for developing a time line, artistic styles for portraying a time line, etc. Have students investigate a particular time sequence of events related to a change and then illustrate it in a time line.
Elements of AB1040— Sensitivity and Responsibility	Have students identify societal and personal responsibilities in instituting a change. Have students investigate how a societal change has occurred and then evaluate the consequences of that change.
Independence of thought	Have students discuss the impetus of change within various political structures—democracy, monarchy, communism, etc. Discuss the personal and societal forces that cause change to occur.
Ethical Standards	Have students evaluate a noted societal change to determine the negative and positive consequences of this change. Have students prepare a set of criteria to evaluate the merits of a personal change. Have students engage in creating and evaluating some type of change. Have students research an individual who was instrumental in causing change to occur. Have the students use their research findings to determine if the individual was acting out of personal, professional, political, or other interests when he/she stimulated the change. Discuss the relationship of personal, political, professional, or other interests as stimuli for change to the benefits of the change that has taken place.
Self-concept	Have students compare/contrast their characteristics (personal, social, intellectual) with those of an individual who has been instrumental in the development of a scientific, social, or other type of change.

Development of personal growth and sophistication in attitudes, appreciations, feelings, intuition

Have students list the attributes of self that they would like to change and then discuss the real and fictitious merits of these changes if they were to actually take place.

Have students identify the familial characteristics they possess that have already undergone some type of change. Have them identify the reasons underlying the changes.

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THE SHOULDS AND SHOULD NOTS

OF AN APPROPRIATELY DESIGNED DIFFERENTIATED CURRICULUM

1. The curriculum should be planned and sequentially organized to include specific expectations for the acquisition of subject matter, mastery of skills, creation of products, and development of attitudes and appreciations related to self, others, and the environment.

   The curriculum should not be a potpourri of learning activities that are disjointed and haphazardly selected without reference to specified criteria.

2. The curriculum should place emphasis on the interdependence of subject matter, skills, products, and self-understanding within the same curricular structure.

   The curriculum should not focus on the attainment of cognitive competencies in isolation from the development of affective competencies. Nor should the curriculum focus on affective development without concern for cognitive growth.

3. The curriculum should include provisions to meet the need for some type of instructional pacing by any or all of the following means:

   a. making it possible to accomplish a range of learning experiences in a shorter span of time using a continuous progress curriculum

   b. assigning students to curricula at levels beyond those expected at the students' age/grade level

   c. eliminating from the curricula what is already learned and substituting curricula more appropriate to student interest, abilities, and needs.

   The curriculum should not penalize students for being gifted or talented through restricting their opportunities to learn by ignoring those characteristics that define their giftedness.

4. The curriculum should allow for the expression of some aspect of the individual's interests, needs, abilities, and learning preferences. The curriculum should be organized to allow for some individualization and self-selection.

The curriculum should not be without defined expectations and clearly expressed opportunities for teacher-directed as well as student-selected learning activities.

5. The curriculum should provide opportunities to learn to reconceptualize existing knowledge, to perceive things from various points of view, and to use information for new purposes or in new ways.

   The curriculum should not stress the accumulation of knowledge or reinforce mastery without simultaneously encouraging students to be productive thinkers.

6. The curriculum should provide learning experiences for students to address the unresolved issues and problems of society and apply personal and social data to analyze, clarify, and respond to such issues and problems.

   The curriculum should not focus only on knowledge of the world as it is, but should encourage the development of perceptions of the need to invent in order to restructure the world into what it ideally could be.

7. The curriculum should incorporate learning experiences that foster the development of the complex thought processes that encourage the creation of unique products and develop strategies of productive thought. The curriculum should teach both fundamental and higher-level thinking skills as integral parts of every learning experience.

   The curriculum should not overemphasize mastery of fundamental basic skills, nor should it exonerate gifted/talented students from mastering these. The curriculum should not ignore the development of fundamental or basic skills for the mastery of higher-level thinking skills.

8. The curriculum should provide opportunities for students to practice leadership and followership skills and appropriate and varied forms of communication skills and strategies.

   The curriculum should not be based on the assumption that gifted/talented students can assume positions of leadership without the development of skills and understandings that promote this end.

WORK PAGE: CURRICULUM NEEDS ASSESSMENT

Directions: The following list represents a set of shoulds for determining the appropriateness of a curriculum for the gifted/talented. Use the curriculum you teach the gifted/talented or the learning experiences provided to your gifted/talented child as a reference. Mark your response for each item.

CURRICULUM SHOULDS	RESPONSE		
	Always Reinforces This Should	Sometimes Reinforces This Should	Never Reinforces This Should
1. should be planned and sequentially organized			
2. should place emphasis on integration of subject matter, skills, products, self-understanding in a single curricular experience			
3. should make provisions for instructional pacing			
4. should allow for expression of individual interests, needs, abilities, learning preferences			
5. should encourage reconceptualization of existing knowledge and generation of new knowledge			
6. should allow students to attend to unresolved issues and problems of societal and personal importance			
7. should foster development of complex and productive thought processes			
8. should allow students to practice leadership/followership and appropriate and varied communication skills and strategies			

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CURRICULAR ELEMENTS RELATED TO CURRENT STATE LEGISLATION FOR THE GIFTED/TALENTED

- DIFFERENTIATED OPPORTUNITIES FOR LEARNING COMMENSURATE WITH THE GIFTED AND TALENTED INDIVIDUAL'S PARTICULAR ABILITIES AND TALENTS

Interpretation

. Use of a systematic approach to assess student needs, interests, and abilities

. Use of varied and appropriate individualized and group strategies and educational experiences planned to match student needs, interests, and abilities

Some Examples

. role playing
. simulations
. discovery
. lecture
. programmed materials
. computers
. independent study
. tutor
. discussion
. learning centers
. task cards

- ALTERNATIVE LEARNING ENVIRONMENTS IN WHICH GIFTED AND TALENTED INDIVIDUALS CAN ACQUIRE SKILLS AND UNDERSTANDINGS AT ADVANCED IDEOLOGICAL AND CREATIVE LEVELS COMMENSURATE WITH THEIR POTENTIAL

Interpretation

. Inclusion of a range of learning environments within the class setting and total program design available to students

. Provisions made to include teaching and learning of the more abstract and complex thinking and inquiry skills

INQUIRY TRAINING

The inquiry training model based on the work of R. Suchman identifies these processes:

Confrontation With The Problem - encountering the environment

. students are presented with something to explain or assimilate

Period of Inquiry - processing the data found

Some Examples

. students question and probe the thing under investigation to collect data about it
. students analyze the acquired data and formulate principles about the causal relationship found among the data's variables

Analyses of Inquiry Strategy

. students and teachers evaluate the inquiry process and develop more effective strategies of investigation
. students assimilate the explanation into their conceptual systems

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Reference: Joyce, Bruce and Marsha Weil. "Inquiry Training Model", Models of Teaching. Prentice Hall, Inc., New Jersey: 1972, pp. 137-151.

LOGIC

Formal logic includes the formal principles of inductive and deductive reasoning.

Inductive agreement is arriving at a conclusion based on reasoning from the specific to the general.

Examples of inductive reasoning:
- reasoning by analogy
- causal reasoning (explaining why)

Deductive agreement is arriving at a conclusion based on reasoning from the general to the specific.

Examples of deductive reasoning:
- categorical syllogism - an inference made from the relationship of two terms to a third term

  Every rectangle is a polygon.
  Every square is a rectangle.
  Every square is a polygon.

- hypothetical syllogism - consists of a major premise, a minor premise, and a conclusion; major premise contains an antecedent ("If...") and a consequent ("then..."); minor premise affirms or denies the antecedent and consequent; conclusion is deducted from the major and minor premise

  If the moon is between the earth and the sun, then the earth is dark.

  The earth is between the sun and the moon.

  The earth is light.

Reference: Hiatt, Donald A. True, False, or In-Between - An Elective Course in Logical Thinking. Ginn and Co., Mass: 1975.

TABA'S TEACHING STRATEGIES

1. CONCEPT DEVELOPMENT
   - A. Organize and reorganize information
   - B. Categorize information
   - C. Label information
   - D. List information
   - E. Compare information
2. INTERPRETATION OF DATA
   - A. Gather information
   - B. Organize information
   - C. Analyze information
   - D. Infer and explain by:
     - . concluding
     - . generalizing
     - . making cause/effect relationships
     - . giving support or evidence
3. APPLICATION OF GENERALIZATIONS
   - A. Apply information
   - B. Predict from information
   - C. Judge information
   - D. Note effects
4. RESOLUTION OF CONFLICT
   - A. Interpret attitudes, feelings

Reference: Taba, Hilda. Teaching Strategies and Cognitive Functioning in Elementary School Children. San Francisco State College, Coop Research Project, No. 2404, San Francisco: 1966.

- ELEMENTS THAT HELP THE GIFTED AND TALENTED TO DEVELOP SENSITIVITY

Interpretation

. Provide learners with opportunities that encourage development of self and one's relationship with others

. Encourage pupils to study and discuss the nature of human relations/behaviors

. Practice leadership as well as "follower" roles in meaningful endeavors

Some References

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- ELEMENTS THAT HELP DEVELOP A COMMITMENT IN GIFTED AND TALENTED INDIVIDUALS TO CONSTRUCTIVE ETHICAL STANDARDS

Interpretation

. Provide pupils with opportunities to critically examine social and moral issues and problems

. Provide pupils with opportunities to become more aware of their own values and the values of others

An Example

Science:

. effect of new technology such as genetic engineering, medical advances on individual choice
. ethics of researchers

Literature:

. interrelationships of personal values and life's circumstances
. validity of universal themes for personal belief systems
. relationship between advertising and propaganda

Social Studies:

. use and/or abuse of personal, economic power
. effects of judgments of leaders on followers
. relationship of laws to the quality of life

Mathematics:

. manipulation of numbers for academic and economic purposes

Art:

. type of criteria used to evaluate works of art and artists

- ELEMENTS THAT ASSIST THE GIFTED AND TALENTED TO DEVELOP SELF-GENERATING PROBLEM-SOLVING ABILITIES TO EXPAND EACH PUPIL'S AWARENESS OF CHOICES FOR SATISFYING CONTRIBUTIONS IN HIS OR HER ENVIRONMENT

Interpretation

. Enable pupils to develop problem-solving skills and apply these to a variety of problems in different contexts

. Encourage pupils to gain further understanding of their personal options in both vocational and avocational pursuits

CREATIVE PROBLEM SOLVING

The creative process applied to problem solving:

1. Fact-finding: gathering data in preparation for defining the problem
   . Identify the problem by asking questions: Who? What? Where? When? Why?

An Example

2. Problem-finding: analyzing problematic areas in order to pick out and point up the problem to be attacked
   . Question - "In what ways might I .....?"
   . Gather data

3. Idea-finding: idea production - thinking up, processing, and developing numerous possible leads to solutions
   . Put to other uses
   . Modify
   . Magnify
   . Rearrange
   . Combine
   . Adapt
   . Minimize
   . Substitute
   . Reverse

4. Solution-finding: evaluating potential solutions against defined criteria

   . Establish criteria

   . Evaluate

   . Verify

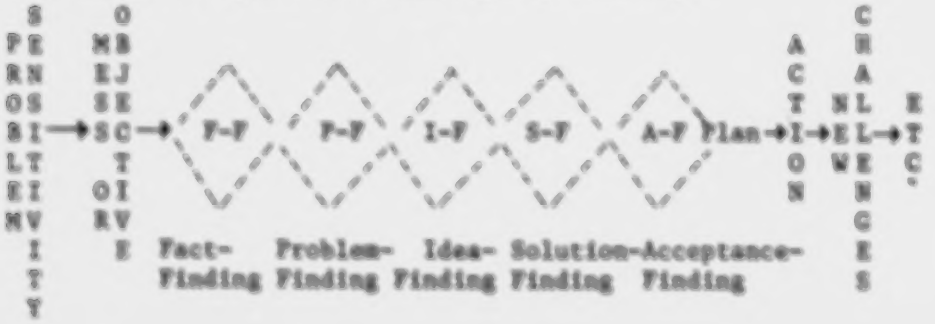
   . Test

5. Acceptance-finding: adoption - developing a plan of action and implementing the chosen solution

   . Implement

   . Prepare for acceptance

The following diagram suggests the way in which this process alternates within each step between "imaginative" (divergent) thinking and "judicial" (convergent) thinking.



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- ELEMENTS THAT HELP GIFTED AND TALENTED PUPILS DEVELOP REALISTIC HEALTHY SELF-CONCEPTS

Interpretation

. Provide pupils with opportunities to develop self-understanding

. Encourage pupils to express themselves in a variety of forms

. Encourage pupils to assume responsibilities for their own actions

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6

DEVELOPMENTAL SEQUENCE TO CONSTRUCT DIFFERENTIATED CURRICULA

TASK

1 Assess the functional levels of the students: needs, abilities, interests, learning preferences

ALTERNATIVES TO ACCOMPLISH THE TASK

Use formal and informal procedures to determine students' levels of needs within various subject or skill areas. Review data already collected by the district such as:

- test scores
- work samples
- cumulative records
- teacher observation
- interest inventories
- questionnaires
- interviews
- group discussions
- analysis of student performance and/or products during, or after, a given task

Other assessment ideas could include:

- having students respond to an appropriate predesigned differentiated task
- observing students in problem-solving situations
- evaluating students' responses to selected tasks from the regular curriculum
- interviewing students regarding a particular subject

TASK

2 Structure an ongoing, comprehensive, and articulated curricular framework.

ALTERNATIVES TO ACCOMPLISH THE TASK

Develop a scope and sequence to define appropriate grade/age level expectations for developing subject matter (knowledge), skills, attitudes, appreciations, and all other areas of function (emotions, physical, intuitive) for the gifted/talented program.

Information from these sources could facilitate this task:

- the district's scope and sequence outlines
- a collection of texts
- district curricula guides
- tests of competencies

TASK

3 Define learning expectancies that challenge the student at, or above, the student's recognized ability level.

ALTERNATIVES TO ACCOMPLISH THE TASK

Determine the learning experiences within the regular curriculum that should be eliminated due to already attained mastery, reinforced because of further need to attain mastery, or extended in a more complex, sophisticated manner.

TASK

4 Select the subject matter to be acquired, skills to be mastered, products to be developed, and awarenesses to be heightened or developed against the criteria of a differentiated curriculum.

ALTERNATIVES TO ACCOMPLISH THE TASK

Subject matter should:

- relate to the major generalizations and theories within the subject area or discipline
- include the integration of multiple disciplines and all functions for learning
- provide for increasing understandings of the abstract knowledge within the subject area or discipline
- allow for in-depth learning of some aspect of the subject matter on a self-selected basis

Skills should include those related to:

- Basic or fundamental skills
- Complex, productive thinking skills such as:

<u>Problem Solving</u>

define problem
hypothesize tentative solutions
collect data
test hypotheses
verify solutions
apply solutions

<u>Creative Thinking</u>

substitute	maximize
combine	brainstorm
rearrange	hypothesize
redesign	restate
add-to	modify
adapt	alter
design	create analogy
amend	reverse
minimize	rename

Critical Thinking

define the meaning or interpret
judge with criteria
test assumptions
give supportive evidence
differentiate fact/fiction
note ambiguity
specify the intent/purpose
check reliability
check credibility
relate conclusions
verify meaning
prove
justify
make an inference
criticize

Logic

inductively reason
deductively reason
relate
sequence
conclude
identify the pattern
state the rule
recognize the structure

. Research skills such as:

Acquiring Information

Card Catalog
Table of Contents
Index
Glossary
Reader's Guide
Notetaking
Skimming

Distinguishing between primary and secondary references
Reading abstracts
Checking validity of resources--author's authenticity, copyright, sources
Using a bibliography
Reading footnotes

Using retrieval systems (microfiche, ERIC)
Reading statistical information
Reading pictures
Interviewing
Surveying
Observing

Using research methods
- case history
- historical study
- correlational study
- descriptive study
- developmental study

Interpreting Information

stating a premise
drawing conclusions
making an inference
outlining
identifying key words, phrases, ideas
making recommendations
summarizing

Reporting Information

developing a bibliography
using footnotes
writing an abstract
writing a proposal
developing a report, creating tables, making graphs, etc.

ALTERNATIVES TO ACCOMPLISH THE TASK

Product development should include:

Oral

role playing
panel discussion
debate
teach
lecture
film/slide/tape

Visual

display
charts
tables
illustrations
filmstrip
film
graph
collage
mural
map
timeline
flow chart
diagram
poster
advertisement

Kinesthetic

model
diorama
sculpture
puzzle
game

Written

journal
diary
log
report
textbook
abstract
editorial
letter
document
simulation

TASK

5 Construct a comprehensive set of learning opportunities that integrate subject matter acquisition, skill mastery, product development, and self-awareness into each learning experience.

Make appropriate relationships between the various elements that comprise a differentiated learning experience.

The examples that follow illustrate how these elements are delineated in conjunction with a unit on POWER and then integrated into a complete differentiated learning experience.

ALTERNATIVES TO ACCOMPLISH THE TASK

Elements

- Complex, productive thinking skill: Critical Thinking - to judge with criteria
- Subject matter: influences of power on societal decision making in purchasing, forming philosophical beliefs, selecting lifestyles, promoting technological advances
- Basic skill: defining main idea
- Research skill: taking notes, using professional journals
- Product: writing an editorial
- Self-awareness: self-concept development

Learning Experience

Judge, with criteria you create, the influence of POWER on societal decisions made in purchasing (economics), forming philosophical beliefs, creating lifestyles, and promoting technological advances. Gather information by taking notes of the main ideas of journal articles about POWER. Write an editorial on the subject and include your findings. Be prepared to discuss the power sources that influence you.

Experience yourself as a physical power.

Imagine that you are a person in a highly powerful position. Role play your responses to situations that may occur related to this position.

TASK

6 Organize the learning experiences to provide students with opportunities to work individually and in groups. Encourage students to develop a philosophy of life as a gifted/talented person.

ALTERNATIVES TO ACCOMPLISH THE TASK

Provide for a variety of instructional strategies to facilitate the many and varied learning styles of the gifted/talented:

- role playing
- lecture
- simulation
- discussion
- discovery/inquiry
- independent study
- films
- study prints

TASK

7 Include opportunities for students to develop the concept of contribution to self and others.

ALTERNATIVES TO ACCOMPLISH THE TASK

Allow students to:

- select to pursue one aspect of a study independently according to a defined study plan
- work in committees to investigate, research, and share
- share knowledge, discoveries, products in meaningful ways with each other

ORGANIZING THE LEARNING EXPERIENCES

Beside each learning experience, specify and describe the appropriate instructional strategy.

LEARNING EXPERIENCES	INSTRUCTIONAL STRATEGIES							
	Types							Description
	independent study	group study	discussion	lecture	other	other	other	

SELECTING ELEMENTS FOR A DIFFERENTIATED CURRICULUM

Select the elements related to each category that will comprise the learning experiences for the differentiated curriculum

	SUBJECT MATTER	SKILLS	PRODUCTS	INTUITION	PHYSICAL	SELF-CONCEPT	OTHER
UNIT OF STUDY: _____							
LEARNING EXPERIENCES							

ASSESSING THE FUNCTIONAL LEVELS OF STUDENTS

Use this form to specify the curriculum for individual students or groups of students.

DATA (use of formal or informal information)	INTERPRETATION (meaning of data for the development of curriculum)	IMPLICATIONS FOR THE CURRICULUM					
		Subject Matter	Skills	Products	Emotions	Other	Other

CONSTRUCTING A COMPREHENSIVE AND ARTICULATED CURRICULAR FRAMEWORK

After specifying goals for the major areas that comprise a differentiated curriculum, list specific objectives for varying age/grade levels to attain these goals.

Areas	SUBJECT MATTER		SKILLS	PRODUCTS	EMOTIONS	OTHER	OTHER
Goals							
Differentiated by age/grade levels	Levels						

RELATING THE DIFFERENTIATED TO THE REGULAR CURRICULUM

Determine the elements of the regular curriculum that should be maintained, eliminated, reinforced, or extended in order to define an appropriate differentiated curriculum.

	AREAS	DETERMINATION Check appropriate decisions				DESCRIPTION Describe how to reinforce or extend areas
REGULAR CURRICULUM		Maintain	Eliminate	Reinforce	Extend	